U.S. Department of the Interior Scientific Investigations Map 3376
Pamphlet accompanies map U.S. Geological Survey **CORRELATION OF MAP UNITS** - Tertiary? CENOZOIC
 Jdd
 Jdf
 Jap
 Jbw
 Jt
 Jg
 Jgg
 Jgs
 Jgqm
 Jgmr
 Jgr
 Jfr
 Jfs
 Jfl
 - JURASSIC OR TRIASSIC TRIASSIC PERMIAN AND PENNSYLVANIAN MISSISSIPPIAN - DEVONIAN - DEVONIAN TO CAMBRIAN - CAMBRIAN - NEOPROTEROZOIC - PALEOPROTEROZOIC LIST OF MAP UNITS **EXPLANATION OF MAP SYMBOLS** Modified land (Holocene) Red monzogranite ———— Contact—Dashed where approximate mw Mine waste (Holocene) Altered reddish-brown granitic rocks Basal contact of slide block—Hachures are on slide block Qe Eolian sand (Quaternary) Fountain Peak Rhyolite (Jurassic) **Fault**—Dashed where inferred, dotted where concealed. Includes both normal and reverse faults. Showing dip where known. Bar and ball on downthrown side where known or inferred. Arrows show QTs Slope deposits, undivided (Quaternary and Pliocene?) sense of lateral offset where known or inferred Sandstone, conglomerate, and tuff QTt Travertine and tufa (Quaternary and (or) Pliocene) Fault-line scarp—Hachures point downscarp Alluvial deposits (Holocene to Pliocene?) Anticline—Trace of axial surface Limestone-clast conglomerate (Jurassic or Triassic) Active and recently active alluvial deposits (Holocene) Syncline—Trace of axial surface. Arrow shows direction of plunge Moenkopi Formation (Triassic) Young alluvial deposits (Holocene and latest Pleistocene) where known or inferred Intermediate alluvial deposits (late to middle Pleistocene) Limestone member Strike and dip of beds Sandstone member Old alluvial deposits (middle to early Pleistocene) Vertical PPb Bird Spring Formation (Permian and Pennsylvanian) Extremely old alluvial deposits (early Pleistocene to Pliocene?) Overturned Mm Monte Cristo Limestone (Mississippian) Wild Horse Mesa Tuff (Miocene) Horizontal DI Limestone, dolomite, and quartzite (Devonian) Strike and dip of igneous foliation **D€d Dolomite, sandy dolomite, and quartzite (Devonian to Cambrian) €**d **Dunderberg Shale (Cambrian)** Unit 2 Vertical Bonanza King Formation (Cambrian) **Unwelded facies** Strike and dip of metamorphic foliation Upper member Welded facies Silver King Dolomite Member Peach Spring Tuff (Miocene) **Banded Mountain Member** ▲ Tuff locality—Ash deposits correlated with upper tuffs of Glass Mountain or Bishop Tuff (age ~0.87 to 0.76 Ma) based on Papoose Lake Member Diabase dikes (Jurassic?) tephrochronologic analysis (see pamphlet, appendix 5) €c Cadiz Formation (Cambrian) Felsic to intermediate dikes (Jurassic) A——A' Line of structural cross section Jap Aplite dikes (Jurassic) Chambless Limestone (Cambrian) Jbw Monzogranite of Bonanza King Well (Jurassic) **El** Latham Shale (Cambrian) Jt Monzogranite of Tough Nut Spring (Jurassic) Zabriskie Quartzite (Cambrian) **Quartz Monzonite of Goldstone (Jurassic)** CZu Wood Canyon Formation and Stirling Quartzite, undivided **Undivided rocks** (Cambrian and Neoproterozoic) Gabbro and diorite **Zj** Johnnie Formation (Neoproterozoic) Base from U.S. Geological Survey, 7.5-minute Colton Well (1984), Columbia Mountain (1983), Fountain Peak (1985), and Hayden (1983) quadrangles SCALE 1:24 000 Geology mapped 2006–2014 by P. Stone Fine-grained syenite to syenogranite GIS database and digital cartography by S.S. Priest and Xq Quartz veins or dikes (Paleoproterozoic?) Universal Transverse Mercator projection Quartz monzonite Edited by J.L. Zigler Xm Metamorphic and plutonic rocks, undivided (Paleoproterozoic) 1927 North American Datum Manuscript approved for publication February 7, 2017 Jgm Clark 1866 Ellipsoid, Zone 11 Monzogranite CONTOUR INTERVAL 5, 10, and 20 METERS APPROXIMATE MEAN DECLINATION, 2017 MAP LOCATION NATIONAL GEODETIC VERTICAL DATUM OF 1929 PANORAMIC VIEWS OF MAPAREA COLUMBIA HAYDEN MOUNTAIN AREA Index map showing map area and names of 7.5' topographic quadrangles Note: A fault (east side up) obscured by subsequent emplacement of unit Jfr is inferred to account for the absence of unit \(\)\text{Tms} east of Jfr. Explanation of unit symbols on photographs: Jp, Jurassic plutonic rocks; Jfr, Jurassic Fountain Peak Rhyolite; PPb, Pennsylvanian and Permian Bird Spring Formation;

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Ru, undifferentiated Paleozoic rocks. Note that units Jp and Ru each combine multiple units shown on the geologic map.